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## BRIEF NOTES ON AN EXPEDITION TO THE NORTH OF ICELAND IN 1899.

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I SPENT the summer of 1899, alone, exploring the North of Iceland for ornithological purposes. My primary object in visiting that island was to study the breeding haunts and habits of some British birds who do not, or rarely do, breed in this country; and to procure specimens, especially the downy young, to assist in completing, as far as I can during my lifetime, the series of educational pictures depicting the life-histories of British birds, upon which I have been already engaged about ten years.

I was totally ignorant of the island and the people, and could obtain no reliable or satisfactory information in this country until the very eve of my departure; the only books I had access to being Paijkull's 'Summer in Iceland,' and Shepherd's 'North-West Peninsula of Iceland.'

From the scant information I could glean, I quite expected that I should have to lead a wild life, and therefore fitted up my expedition with tents and all necessities, provisioning myself for two months, which I considered, with the assistance I might obtain from the inhabitants and my guns, should make me safe for four months, if necessary. I had not, however, been on the island many days before I found that most of these preparations had been so much worry, hard work, and money practically

thrown away; for I quickly discerned that it would be advantageous to discard my tent and rations, and throw in my lot with the farmers wherever I went, paying them for the accommodation of myself and guides. These people are very poor—from our standpoint—and gratefully appreciate the money which some travellers spend with them; while they certainly resent the action of those who take their tents and provisions, and get all they want out of the country, leaving the smallest possible amount of money behind them. The action of the Icelanders on this score I consider to be perfectly justifiable; and I would advise any naturalists who contemplate travelling in this wonderland to prepare themselves for “roughing it,” to engage a first-class guide, and put up with whatever the farmers can supply in the way of food. The Icelanders’ mode of dining appears strange and rough at first, but the climate and the rough life one leads are so bracing, that one does not think of how things are cooked, or what it is which is placed on the table. I had nothing to complain of in the good houses; the great desire is to get something of some kind to satisfy hunger. I was certainly put to sore straits at times, when the calculations of my chief guide, Sigurdur Samarlidason, miscarried, and sighed for my tent and provisions, which I had come to regard as nothing but an encumbrance; but these were exceptions, and I should never hesitate to adopt the plan again, even if I knew that greater hardships were in store than those I have already gone through.

At the outset I was confronted with great difficulties in consequence of the strictness of the law as to shooting birds in the close-time, and once thought I might just as well pack up my traps, and return by the first vessel I could find; but ultimately I firmly determined that, after all my preparations, I would not do so until I had exhausted every art of diplomacy of which I was capable. The result was that, in an interview with the chief magistrate for the north and east portions of the island, I so enlisted his sympathies in the educational works I had in hand, that he said he considered he ought to be in a position not only to give me the permission I asked for, but to render me every assistance in his power; but the law was made—a bad law he believed it to be—and he could not alter it. However, bit by bit, I gained concession after concession, until eventually



I was armed with magisterial authority to procure all I needed; provided I made arrangements with the farmers in the different districts I visited, and paid them for permission to get specimens on their ground. I was led to understand distinctly that the land belonged to the farmers, and whatever that land produced was their property. There is practically no unclaimed land in the North of Iceland. My trusty guide and interpreter—he is one of the best guides in Iceland—who I had engaged for the whole length of my stay, used this magisterial permit—and perhaps amplified it—with such success wherever we went, that I was almost everywhere received with the greatest kindness and respect, the people certainly trying their very utmost to assist me in procuring all I needed; and in the more remote districts no small potentate could have expected greater consideration than was accorded to me. I have said *almost* everywhere; there was one solitary exception, and this at the time—and the point farthest north which I had reached—when I was becoming utterly worn out with hard work, and during the last and most disastrous journey I made, which so disheartened me that I determined to bring my wanderings in Iceland to a close.

The plan I adopted was to have a base of operations in the different districts, and make journeys in different directions from that base; none of these journeys exceeded three days in duration, but it was at such times that I occasionally felt the need of a tent and proper provisions.

The land was to me a veritable paradise, teeming with bird-life almost everywhere; the birds appearing in such a manner that it was easy to observe their habits. It is so different with our wild and wary creatures at home.

Somewhere about sixty-six species came under my observation either directly or indirectly, and to the bulk of them I shall have to refer in the briefest possible manner, enlarging only in the more important cases. To refer to all the interesting traits of character I studied would need a volume of 'The Zoologist' instead of a few pages. I consider that I accomplished more useful work in the few weeks I spent in the land than I could have done in many years at home.

Although great fields of snow can be seen on the mountains everywhere, the climate in the valleys is mild and delightful;

except during rain or fog, when the cold penetrates almost to one's marrow. My health was almost extravagantly good; better than it had been for many years previously.

This was my maiden effort at exploration away from our own shores. The following pages will show how successful it was.

The Icelandic names of the birds are placed in brackets. I have taken them from Gröndal's 'Skýrsla' (Skýrsla, un hid Islenzka náttúrnfræðisfelag, árid 1894-1895. Reykjavik, 1895). This, I consider, better than trusting to the spelling of the names given to me by the inhabitants.

REDWING, *Turdus iliacus*. (Skógarpröstur).—Fairly abundant in the districts where birch-scrub abounds. Very wild; more so, in fact, than they are with us during the winter. I was utterly disappointed with the song; it is the weakest, shortest, and most unmusical song I have ever heard from a Thrush, and I could not believe that I was listening to one until I located the bird with my glasses. My specimens differ in plumage from any other Redwings I have ever seen, and are in Dr. Bowdler Sharpe's hands for determination. I procured adult male and female, nest and eggs, and nest with five young just hatched.

WHEATEAR, *Saxicola cinanthe*. (Steindepill).—The small dull-coloured race. Plentiful in all districts I visited. I got adult male and female, and young in first and second stages.

ICELAND WREN, *Troglodytes borealis*. (Músarrindill).—I saw this bird once only, and then it was like a mouse gliding into the scrub. All Icelanders knew the bird by name, but very few had ever seen it.\* That name was invariably "músarrindill"; I never heard it called by any other in the north. The Rev. H. H. Slater, in his recently published 'Manual of the Birds of Iceland,' curiously enough, has never heard this name used, notwithstanding his fifteen years' experience in Iceland. Músarrindill means "Mouse-bird."

WHITE WAGTAIL, *Motacilla alba*. (Maríu-erla, &c.).—Common almost everywhere, and the only species of Wagtail to be found in Iceland. I procured a perfect series: adult males and females; first, second, third, and fourth stages of the young; the change from summer to winter plumage; nest and young; nest and eggs; and, a great rarity—nest with white eggs.

\* As a matter of fact, throughout all my wanderings I made incessant inquiries, but only found one shepherd-boy who had ever actually seen the bird, and that was near where I saw my solitary specimen.



ROCK-PIPIT, *Anthus obscurus*. (No Icelandic name.)—I found this bird in all the Færø Islands, and took a nest and young from a stone wall at Klaksvig. In Iceland I only once met with it in Vopnafjord, and then attached no importance to it, and did not attempt to procure the specimen, being unaware that it had never been recorded from Iceland. I do not think that I could have been mistaken in a bird with which I am so thoroughly familiar.

MEADOW-PIPIT, *A. pratensis*. (Púfútitlingur.)—Common in most districts, and resident. From observations I made I thought this bird ought to be separated from *A. pratensis*, and Faber's name, *A. islandicus*, restored; as I detected a slight difference in the song, in the structure of the nest, in the plumage of adults and young, but, most important of all, in the fact that the colour of the inside of the mouth, in the nestling, is flesh-white, as compared with the scarlet orange in our bird. After more mature study, however, and the examination of various stages of the young of our bird during the present season of 1901, I think it best not to further discuss the question until I have paid another visit to Iceland to satisfy myself that the more important characters are permanent. I obtained adult male and female, various stages of the young, and nest with five young just hatched.

PIPIT, sp. ?.—I made a special visit to the least known portion of a lovely valley, the sides of which were clothed with dense forests of birch, some of the trees being from ten to fifteen feet high. The undergrowth was as dense as in many English thickets, and to penetrate this was a matter of considerable difficulty. I was lying concealed in this undergrowth, watching Hornemann's Redpoll, when I heard the vigorous song of a bird which was totally new to me. Cautiously observing, I saw, to my utter astonishment, a small Pipit clinging to an upright slender shoot of birch, precisely as a Whitethroat or Sedge-Warbler would do. When I made my appearance the bird left the twig, and, mounting into the air, continued its song, and flew right across the wide valley, singing the whole time, finally settling in a birch on the opposite side. These movements I followed with my Zeiss binoculars. My attention was shortly afterwards directed by Sigurdur to a little bird skulking amongst the thick scrub, and running along the twigs with as much dexterity as a Grasshopper-Warbler would do. Its movements were so quick, and the scrub so dense, that I could not see what the bird was; but, bringing it down, I was again amazed to find that it was one of the little Pipits I had just been watching. The markings of the feathers are very similar to those of the Icelandic Meadow-Pipit, but the bird is conspicuously more slender in build, although the wing-measurement is the same in both species,

but the habits and song are totally distinct. The Meadow-Pipit was plentiful enough in the lower portions of this valley, and was in song; but I found this bird only amongst the trees, and did not once see it on the ground. While searching, I came across a very curious nest, and deeply regret now that I did not bring it away with me; but I could not determine at the time whether it was an unfinished one, or disused. It was constructed entirely of grass-stems, and was placed about a foot from the ground, on the top of a tangled mass of twisted birch-scrub. The only other small birds breeding in this forest were Hornemann's Redpoll and the Redwing-Thrush. The nest did not belong to either of those birds; indeed, it looked like nothing but a Pipit's nest, although in such a singular situation. At this place I found a very intelligent young man, who appeared to take great interest in the birds, and he gave me, through Sigurdur, some very interesting notes about Hornemann's Redpoll. He took me to see a nest of young Pipits; it was placed on the side of a bank just as were other Meadow-Pipits' nests I had found; he was very anxious for Sigurdur to make me understand that it was the nest of the *ground* Titlingur, which led me to think that he knew of some other kind of Titlingur. I was forced to hurry away from this valley, but arranged to return and thoroughly investigate the question of this interesting little bird; but, alas! my plans miscarried, and I had not the opportunity to follow up my inquiries.

I have recently submitted the only two specimens of this bird which I brought back to Dr. Bowdler Sharpe, who, after much consideration, was inclined to regard them as new, but wished me to convey his views to Dr. Hartert at Tring, and ascertain whether there were any specimens in the Brehm collection like them. We went through the collection, and certainly found some wretched old specimens which did approach them in some features, but, just as certainly, we found nothing quite like them. However, Dr. Hartert determined that the external characteristics of my birds were not sufficiently distinct to form a good diagnosis. I admit this, and admire Dr. Hartert for his caution; but in a class of birds like the Pipits, which so closely resemble each other in plumage, surely something else must be taken into consideration; and I was certainly surprised that he attached no importance to the difference in song and habits. I always thought this was of vital importance; if it is not, how can we separate Marsh-Warbler from Reed-Warbler, or Chiffchaff from Willow-Wren? I have set forth these facts fully, as I am far from being convinced; and if I, or others, again penetrate to the remote spot in Iceland where

I found these birds, and bring back more conclusive evidence, I think the bird will eventually be considered new.

HORNEMANN'S REDPOLL, *Acanthis hornemanni*. (No Icelandic name.) According to the Rev. H. H. Slater, this bird has been known as Icelandic from a solitary specimen, of uncertain locality, procured by the late Mr. Proctor. It is therefore a matter of importance that I found this bird breeding in the forest above referred to; as it not only places the bird on a sound footing, but gives a new breeding bird for Iceland, and, I think, Europe as well. I brought back adults, and nests and eggs, which have been identified by Dr. Bowdler Sharpe and Mr. Eugene W. Oates.

SNOW-BUNTING, *Plectrophenax nivalis*. (Snjótítlingur.)—Common in many districts. I was charmed with the song of this bird; when heard in the great solitudes, high up on the mountain-sides, amongst the masses of black lava and patches of snow, it struck me as being the sweetest Bunting's song I had ever heard. I procured a perfect series of this bird—nest and eggs, and every stage of young and adults. I have one very remarkable young bird, with legs and bill abnormally large.

RAVEN, *Corvus corax*. (Hrafn, &c.)—Plentiful in some districts. I found them breeding on the cliffs as late as July. I did not procure any specimens, but regret that I did not bring back a skin which I was offered, as it has since occurred to me that it was of the enormous billed American race.\*

CARRION-CROW, *C. corone*. (Færeyja-hrafn.)—I saw several of these birds once only, and that was in Seydisfjord.

SNOWY OWL, *Nyctea scandiaca*. (Ugla, &c.)—I did not personally meet with this bird, but several skins were brought to me. I was assured that the bird had never been known to breed in the North, and rested there only on migration.

WHITE-TAILED EAGLE, *Haliaëtus albicilla*. (Orn, Ari, &c.)—I saw a grand adult with white head and tail sailing over Lake Myvatn, but it never came within three hundred yards. This same solitary bird is said to have been seen in the district for ten years, but never with a mate.

ICELAND FALCON, *Falco islandus*. (Fálki.)—I found this magnificent Falcon in moderate abundance in certain districts, and witnessed several striking scenes in connection with it. I scaled a vast pinnacle of rock (lava, and very rotten in places) to the eyrie; this was real

\* Since the above was written I have examined the collection at Tring and Dr. Hartert points out to me that the Greenland form has a very large bill.

cliff climbing, and very different to being comfortably lowered down a cliff by ropes. On the top there was only just room to move about, and to look into the eyrie I had to lay flat down, with two natives firmly clutching my legs to prevent me falling over the dizzy height. I was attacked by the parent birds, but secured the four big fluffy-white screaming young. It was a magnificent experience. I also shot adult females, and female in first plumage. I could have brought back more, but refrained from doing so.

MERLIN, *F. asalon*. (Smirill.)—Plentiful in many districts. Very bold. I saw some remarkable scenes between this bird and the Arctic Tern. I did not procure any specimens, as my series of this bird at home is complete. I have regretted, however, since my return, that I did not procure specimens of all the different kinds of birds I saw.

CORMORANT, *Phalacrocorax carbo*. (Dilaskarfur.)—Common round those parts of the coast I visited.

SHAG, *P. graculus*. (Toppskarfur.)—These also were plentiful in some parts.

GANNET, *Sula bassana*. (Súla hafsúla.)—Common, but I did not visit any of the breeding haunts.

GREYLAG GOOSE, *Anser cinereus*. (Grágæs.)—There has been so much confusion and uncertainty as to the species of Wild Goose breeding in Iceland, and the situation of the breeding haunt, that I am very pleased to be able to increase our knowledge on the subject. Shepherd's great journey in 1862 was undertaken chiefly with the object of settling this problem, but he totally failed, as have others who followed him, excepting the Brothers Pearson.\* Gróndal asserted that the breeding bird was the Bean-Goose, and all eggs which have been sent to England from Iceland were said to be those of *Anser segetum*. The Rev. H. H. Slater, in the book before cited, suggests that the breeding haunt would eventually be found in the desert interior, and kindly offers, in 1901, to render any assistance he can to anyone who will brave the personal discomforts and expense of a summer in exploring the Skjálfandafjót River. I braved all these discomforts in 1899, and ascended the river from its mouth at Husavick to the breeding haunt, and that journey furnished some of the most interesting adventures throughout my wanderings. The breeding haunt is *not* in the interior, but is *below* Góða-foss. The situation is most remarkable, and is practically inaccessible, save to the farmer who lives nearest to it, and who alone can guide the traveller in safety. Well below Góða-foss the river bifurcates; one portion falling over vast cliffs, and forming the grand falls of Ullar-foss; the other the equally beautiful falls of Barna-

\* 'Ibis,' 1895, p. 237.



fells-foss, neither of which appear to be marked on recent maps. At this spot it is clearly to be seen that the valley of the Skjálfandafljót has been formed as the result of a mighty subsidence, snapping off here, and forming vast, jagged, and inaccessible cliffs. At the base, and extending far down the valley, there is a vast mass of *débris* of basaltic rock, the lumps varying from some hundreds of tons weight downwards; all in wild confusion. Amongst this, which abounds in treacherous quick-sands, the two arms of the river flow in numerous rapid and dangerous channels, eventually forming one river again. It was in and out amongst these channels that the native had to guide our horses with the utmost caution, and in a bewildering manner, giving the strictest instructions not to diverge a single foot from the track of his leading horse. Eventually he brought us on to the top of the cliffs. From here, to the point of bifurcation of the river, the land forms a great and long triangular-shaped island, clothed with the richest of vegetation. In the middle of this island there is a great space covered with black sand, and strewn with masses of black lava. This is the breeding haunt of *Anser cinereus*. It is in such an exposed position that the sitting birds can see the approach of an enemy long before one is within gun-range—even of a 4-bore—and take to flight. The eggs are placed on the sand, without any nest, and can be very easily seen. They are systematically taken by the farmer, and I was most positively assured that *all* the Wild Goose eggs which have been sent out from the North of Iceland were procured from this spot, this assertion being subsequently confirmed to my complete satisfaction. My guide was assured by the farmer that I was the first Englishman—Englisher—he had ever seen in those parts.

I saw two considerable flocks of the birds—they were all Greylags—but the bulk of them had finished breeding, and were scattered lower down the river. These birds performed marvellous feats in the water, upon the edge of the mighty falls, which absolutely astounded me, and which I could not have credited had I not seen them. After about seven hours' chasing—the adults were in the moulting stage—I brought one party to bay on the edge of the cliffs. It was a dangerous spot, but afforded the only chance I should probably ever get. Scrambling down on to a narrow ledge, where there was only just room to stand, my faithful guide following and approaching as near as he could, with outstretched hands to receive me in case I was overbalanced by the recoil of the gun, I shouldered the ponderous 4-bore, and, to my delight, killed four birds at one shot—two adults and two young covered with yellow down. I recovered the two adults, but, alas! the two young, which I should have prized most, toppled over

the cliffs, and fell a tremendous depth below, by the side of the falls. I descended the cliff in my eagerness to recover the prizes, until I was actually under the falls, and fully appreciated the meaning of the name Skjálfandafjót—"shivering or trembling"—and having reference to the shaking of the cliffs, by reason of the great body of water falling over. All my efforts were fruitless; the little birds had either fallen into the raging rapids, and been carried away, or into holes between the masses of lava. Afterwards I shot another splendid gander—judging by his size—but found it utterly impossible to recover his body, and saw it eventually carried away by the rapids. However, I had now thrown much more light on the problem, and, after fondly gazing at my two victims, I gave orders for the return with all speed to a farm where we could get rest and food. This we reached about 10 p.m., after fasting fourteen hours.

I made exhaustive inquiries on my return down the valley, and was most emphatically assured that the birds I had procured were the only kind of Wild Geese which breed in that part of Iceland, and that there was no other breeding haunt known in the whole North of Iceland than that I had visited, and, some said, in the *whole* of Iceland. I carefully explained the difference in the colour of the bill between *A. cinereus* and *A. segetum*.

WHITE-FRONTED GOOSE, *A. albifrons*. (Grágæ.)—I did not meet with this bird, but it is well known to the farmers down the valley of the Skjálfandafjót, who told me that it was met with only resting during migration, and most emphatically assured me that it had never been known to breed in Iceland. This I heard first from the farmer at the breeding haunt of *A. cinereus*, and it was confirmed by others lower down the valley.

WHOOPEE SWAN, *Cygnus musicus*. (Alft.)—Saw four of these birds at Myvatn, but did not procure any specimens. It appears to be rare as a breeding species in the North.

MALLARD, *Anas boscas*. (Stökkönd.)—Fairly plentiful in some districts. I procured female and downy young only.

GADWALL, *A. strepera*. ("Litla gráönd.")—This is another bird surrounded by much confusion and uncertainty. Gróndal does not know the bird, and most of the Icelanders with whom I came in contact did not recognize it. I think they confuse it with the female Mallard. Slater, during his fifteen years' experience, only saw the bird once, and then not with much certainty. I saw the adult female on at least four different occasions, but there was a succession of vexatious incidents, which are calculated to cause one to think of unparliamentary language, if not to use it, and which prevented me securing a specimen.

However, I got five downy young, which I value very highly; they very closely resemble the young of the Mallard, but may be known by their shorter and narrower bill—shorter than the head—and the presence of lamellæ. The female is a very noisy bird at times, when she loses her young, for instance. A skin was brought to me, which I regret I did not secure, as it was in very dark plumage, and was undoubtedly the male in the eclipse stage.

PINTAIL, *Dafila acuta*. (Grafönd.)—I met with it frequently, but it is very wild and wary. I got adult female and downy young.

TEAL, *Querquedula crecca*. (Urt.)—Plentiful in several districts. I procured adult female, downy young, eggs, and down.

TEAL, sp. ?.—I saw a Teal with a very dark back, leading four very dark young towards the water. I mistook her for the Common Teal, and, having procured the above, did not intend to interfere with her. In her solicitude for her young she feigned lameness, and in so doing expanded her wings, when I saw *one broad white band* across, above a green speculum. I made repeated efforts to secure her, but failed. What species could this have been?

WIGEON, *Mareca penelope*. (Raudhöfda-önd.)—Common in many districts, especially the interior. I procured adult females, a good series of downy young, eggs, and down.

AMERICAN WIGEON, *M. americana*.—This is probably the most important discovery I made. To be the first to find this splendid duck breeding in Europe gives me the greatest satisfaction. I cannot refrain from expressing surprise that all the ornithologists who have preceded and followed me in Iceland should have failed to discover this striking bird. The very first duck I shot when I finally landed in Iceland was a female *Mareca americana*, and the very first downy young I secured were three—full clutch—of this species. Subsequently I got the adult male, and saw another adult male in eclipse dress; female and about five downy young, which I could not secure; and still another adult female. I met with the bird in three different districts, in two of which it was breeding. The Icelanders knew the male well enough, although as a rare visitor, but regarded it as being only a variety of the Common Wigeon. The female they could not distinguish at all.

This (the female) is a most distinct looking bird in the field, and could not be mistaken, when its characters are understood, by anyone whose eyes were properly accustomed to the appearance of the female *Mareca penelope*. It is much stouter in build; indeed, the difference appears to be as great as that between a person of ten stone and another of fourteen stone. The instant I saw my first bird I was so struck by

its appearance that I examined it long and earnestly through my glasses, with the result that I allowed it to escape; but the second I saw was promptly secured.

This discovery of the breeding of what has hitherto been considered a strictly American bird in Europe will certainly be a subject of great interest not only to ornithologists here, but to those of America, and the Continent as well; and will certainly strengthen the hitherto somewhat shaky position of the species as a British bird. As will be gathered from the foregoing, I brought back adult male and female, and three downy young. I am having a plate prepared, which will show at a glance how to distinguish between the female and young male of this bird and the Common Wigeon.

SCAUP, *Fuligula marila*. (Dúkönd.)—One of the commonest ducks. I found the nesting-sites and the nest of this duck to vary to a most remarkable extent. One nest was built up from the bottom of the lake, until the top was brought under the shelter of a mass of large leaves of the marsh-marigold. The mass of vegetable-matter and mud used would have filled a large wheelbarrow. I brought the top portion and the eggs away.\* I got adult females, plenty of downy young, nests, eggs, and down.

BARROW'S GOLDEN-EYE, *Clangula islandica*. (Húsönd.)—Very common in some districts. All writers, even to the latest, on this handsome duck intimate that it is difficult, if not impossible, to distinguish between the female of this and our Golden-eye (*C. glaucion*). In the very first couple of these birds I shot—they were the first I had ever handled—I noticed a peculiarity of structure which I had never seen in any duck before, and one which would certainly instantly distinguish between the female or young male and our bird; it is also present in the downy young. I procured an unusually large series of females to satisfy myself that the character was permanent, and on my return examined a good series of females of our bird. I am having a plate prepared, showing these distinctive characters. I gathered much very interesting information concerning these birds. I brought back adult males (summer and winter), adult females, plenty of downy young, eggs, and down.

LONG-TAILED DUCK, *Harelda glacialis*. (Hávella.)—The commonest breeding duck everywhere. I got adult male in eclipse dress, adult females, plenty of downy young, eggs, and down.

HARLEQUIN DUCK, *Cosmonetta histrionica*. (Straumönd.)—This magnificent duck is common on most of the wild rapid rivers. The

\* In the nest was a tiny egg, which the Icelanders averred was the last the bird would ever lay.



breeding haunts are amongst some of the wildest and most romantic spots in Iceland. I had some narrow escapes from drowning in trying to recover downy young which I had shot. The female is a noble duck in the defence of her young. I obtained adult male in breeding dress, and in the rare eclipse stage—hitherto unknown; adult females, a good series of downy young, eggs, and down.

EIDER-DUCK, *Somateria mollissima*. (Ædur.)—Simply swarming everywhere along the North coast. A strictly protected bird. I got adult male and female, a good series of downy young, nest, eggs, and down.

KING-EIDER, *S. spectabilis*. (Ædarkóngur.)—A very intelligent farmer, who could speak English fluently, knew this duck perfectly, and described the peculiarity of the bill. He assured me that it bred frequently, but occasionally, amongst his other Eiders; it had not appeared the season I was there. However, I saw some small dark-looking Eiders which puzzled me, and wanted to secure one, but Sugurdur would not let me, as he was afraid of this farmer. If I had seen the farmer before I did the ducks, I am afraid I should have accidentally killed one of them.

COMMON SCOTER, *Ædemia nigra*. (Hrafnstönd.)—Not plentiful, in my experience. I procured adult female, downy young, eggs, and down.

GOOSANDER, *Mergus merganser*. (Toppönd.)—I did not meet with this bird, and only saw the skin of an adult male which had been shot on Lake Myvatn. I was told that the bird formerly bred in the district, but has now deserted it.

MERGANSER, *M. serrator*. (Litla toppönd.)—Fairly abundant. I got downy young only.

ROCK PTARMIGAN, *Lagopus rupestris*. (Rjúpa.)—Very common, some of the moorlands in the North swarming with them. I saw broods of twenty. This is altogether the most stupid bird I have ever met with. It trusts so blindly to its protective colouring that I really think it believes itself to be invisible. This was far from the case to my eyes, for I could detect them far more quickly than the Icelanders could. I saw some very fine instances of protective mimicry, however, in this bird. I obtained males and females in summer, autumn, and winter plumages, every stage in the growth of the young bird, from just hatched up to nearly full-grown, nest, and eggs. The little chick can fly when about three days old.

RINGED PLOVER, *Ægialitis hiaticula*. (Sandlóa.)—Fairly abundant. The first of these birds I saw puzzled me exceedingly, as their upper parts were of a light chocolate colour. I could not procure specimens,

as I had not unpacked my guns. All those I saw in other districts were the normally coloured birds with which I am quite familiar. When I returned to the first place, about five weeks later, my eyes were opened to the fact that it was a most striking and interesting case of conscious protective mimicry. At all events, I think, when I can give full details, it will be found to be so. I procured males, females, and downy young. I found this bird breeding far towards the interior districts.

GOLDEN PLOVER, *Charadrius pluvialis*. (Heidló, &c.).—The commonest of Iceland birds, being abundant everywhere. I was charmed with its sweet, flute-like, tootling song, and tried to syllable it after I had heard it perhaps thousands of times, and was then listening to it. An utterly absurd failure, as it is with the attempt to syllable nearly all other birds' notes. I got a perfect series of this bird, from the young just hatched, and every possible stage up to full-fledged; also a good number of adult males and females. This was one of the very few birds of which I procured more than I actually wanted for my series.

OYSTERCATCHER, *Hematopus ostralegus*. (Tjaldur).—In moderate numbers in some districts. I did not trouble to procure any specimens.

RED-NECKED PHALAROPE, *Phalaropus hyperboreus*. (Odinshani).—In some districts as common as Sparrows in a barn-yard. I could write long chapters on the habits of this fascinating little bird. I discovered, notwithstanding assertions to the contrary, that the male performs the sole duty of hatching the eggs and rearing the young, the female leaving after the eggs are laid. My evidence is, I think, conclusive. I am aware that an American observer, I believe, has made a similar discovery with regard to the allied Grey Phalarope (*P. fulicarius*). My series of this bird is a remarkably complete one. Adult males and female in summer stages, and changing to winter; young in every conceivable stage, from just hatched to full-fledged; nest and eggs. I do not consider that the full-fledged young has been properly described.

COMMON SNIPE, *Gallinago caelestis*. (Hrossagaukur).—Met with very sparingly, and only in certain districts. I only procured one adult. A curious looking bird, but it cannot be other than the Common Snipe.

DUNLIN, *Tringa alpina*. (Lóupræll).—Very abundant. The small, race. I procured adult males, females, and young.

PURPLE SANDPIPER, *T. striata*. (Sendlingur).—Plentiful in some parts. I went to several breeding haunts, but had to leave before I had procured eggs, and when I returned was too late for downy young.

I got adult males and females and fledged young, but with the heads still covered with down. The young in first plumage have not been properly described. Those which reach our shores in the autumn, with the pale margins to the feathers, and which Seebohm describes as first plumage, are practically the third stage, and acquired by moult. There are two stages in the plumage of the young bird after the downy stage, acquired without a moult, and which are quite distinct from the autumn bird.

**REDSHANK**, *Totanus calidris*. (Stelkur.)—In fair numbers in many districts. I obtained adult male and female and downy young. My adults are very heavily barred, more so than any I have ever seen before, and have practically no white under parts.

**WHIMBREL**, *Numenius phaeopus*. (Spói.)—Another of the commonest of Iceland birds. Very bold and very noisy. I have seen these birds mobbing the Iceland Falcon. I made some fine studies of this bird, and shall be able to produce some striking pictures. The series I obtained is a very complete one, from eggs, and every stage of young, just hatched and grading up to full-fledged.

**ARCTIC TERN**, *Sterna macrura*. (Kria.)—Very abundant everywhere, and in some parts of the North in vast colonies. I found it far away in the interior—in the Reindeer districts. I made many studies of this bird, but must not touch upon them, as I am occupying far too much space already. I obtained adults, every possible stage of young, and a series of eggs.

**GREAT BLACK-BACKED GULL**, *Larus marinus*. (Svartbakur.)—Very common in the North, and sparingly in the interior. I did not trouble to procure any specimens.

**LESSER BLACK-BACKED GULL**, *L. fuscus*.—I saw this bird at Thorshavn, in the Færoes, and, in Iceland, one only in Nordfjord. I attached no importance to this, as again I did not know at the time that the bird had not been recorded for Iceland. It need not be suggested that my eyes deceived me, or my ears either, as I carry the Zeiss binoculars. I did not procure any specimens, as my guns were not unpacked.

**GLAUCOUS GULL**, *L. glaucus*. (Grámáfur.)—It will strike some as being curious when I say that throughout all my wanderings I met with three specimens only of this bird, and they were immature. It is a bird not to be mistaken.

**KITTIWAKE GULL**, *Rissa tridactyla*. (Rita.)—Very abundant—in some places in vast numbers. As my series of this bird at home was complete, I did not trouble to procure many specimens. I brought

one only. I noticed that there was only one of the primaries with a white spot.

GREAT SQUA, *Stercorarius catarrhactes*. (Skúmur.)—I saw this bird many times, but did not procure any specimens. I ascertained the locality of a breeding haunt, but had no time to visit it.

POMATORHINE SQUA, *S. pomatorhinus*. (Kjóí.)—I saw a Squa in Seydisfjord with twisted feathers in the tail, which I concluded was this bird.

RICHARDSON'S SQUA, *S. crepidatus*. (Kjóí.)—Abundant. I detested the bird for its bullying propensities, but marvelled at its wonderful powers on the wing. I obtained an abundant series of the dark- and light-breasted ones, and every intermediate stage. These are not two forms; I believe it will be found that the white-breasted birds are simply completely adult, and that the bird needs several years to reach that stage. Young birds may mate with adults, and young birds may breed, as with some other Gulls. On dissection I found both males and females amongst both dark and light birds.

RAZORBILL, *Alca torda*. (Alka.)—Very common. I did not trouble to procure more than one specimen, as my series is complete.

LITTLE AUK, *Mergulus alle*. (Haftirdill.)—I saw a flock of very small sharp-winged swimming birds on entering Eyjafjord, which must have been of this species.

GUILLEMOT, *Uria troile*. (Langvia.)—Very common. I did not need any specimens.

BRÜNNICH'S GUILLEMOT, *U. bruennichi*. (Stuttnefja.)—I visited some islands off the North coast in search of this bird, and it proved to be one of the most disastrous and unsatisfactory of all my journeys. I was too late for one thing, as the birds had all left the breeding rocks. I saw several on the sea, and recognized them at once by their slightly larger size, and black upper parts, as compared with the Common Guillemot. The fishermen confirmed me that they were Stuttnefja, and not Langvia. I tried to procure them with my 4-bore, but I was so numbed with cold fog, and the swell from the islands was so great, that I missed. In the boat I was almost up to my knees in water for many hours. I landed on one of the islands—a most difficult matter—and explored the top; while the physical features of the second island were so marvellous, that I do not regret having had to grope about a fog-bound sea until near one in the morning. Numbed with cold to the very marrow, soaking wet, and sick with hunger and fatigue, the only accommodation I could get on shore, at the wretched hut of the fisherman, was a basin of cold milk, and, thank heaven! a cup of hot coffee. I had to sleep in a hole in the ground, and next



morning could get but a repetition of the cold milk and hot coffee. It was eight o'clock p.m. on the third day before I reached civilization and food. That fearful fog did not lift for four days, and I believe it was this same fog which led to the tragic suicide of the navigating lieutenant of H.M.S. 'Blonde,' the officers of which I had previously met at Husavick. I did not hear of this sad event until I returned to England.

BLACK GUILLEMOT, *U. grylle*. (Teista.)—Very common. I procured adults only, and those were on the island above referred to.

PUFFIN, *Fratercula arctica*. (Lundi.)—Also very common. I procured one adult, and one young covered with down, from the top of this island. The nesting-holes were unusually long in which the birds were breeding, and it was a very difficult matter to get to the young.

GREAT NORTHERN DIVER, *Colymbus glacialis*. (Himbrimi.)—I found this bird distinctly rare in the North, and only saw about four specimens, two of which were on the coast. I obtained a splendid adult and two eggs.

RED-THROATED DIVER, *C. septentrionalis*. (Lómur.)—This was the common species of Diver, and in one district I saw as many as twenty at one time. I obtained adult male and female, young in down, and young in first plumage.

SLAYONIAN GREBE, *Podiceps auritus*. (Sefönd.)—Very abundant in some districts. I found no nests as actual floating structures; they were all built up from the bottom of the lake, until the surface of the water was reached. The commonest site was under a projecting mass of lava, without any surrounding vegetation, and the eggs could be distinctly seen a long distance away. I obtained a good series of adults, young just hatched, young half-grown, and nest and eggs.

FULMAR, *Fulmarus glacialis*. (Fylúngur.)—Plentiful at sea, but I did not visit any breeding haunt.

I was absent from Birmingham just over eight weeks. Eighteen days of this time was spent on board the Danish mail steamers during the outward and return journeys; so that I had actually less than six weeks on land in the North for collecting. During this time I procured 330 specimens of birds, a splendid series of nests, eggs, and down; skinned and preserved all my specimens, labelled them, and made elaborate separate notes on soft parts, and measurements. I wrote up my journal daily, when it was possible to do so, recording my observations upon the habits of

birds, and the physical features of the wonderful land I was passing through, and the interesting type of people I met. These daily observations covered 530 pages of note-books. When it is remembered that several of my journeys after one particular species of bird occupied two and three days, and that I was constantly in the saddle, and covered great distances almost daily, it will be readily understood that I had not a single idle moment. Indeed, I gave myself only about half my usual time for sleep. The unbroken daylight was of great assistance to me, and I was strong and vigorous for each day's labours, although I might have been hard at work until 3 or 4 a.m. Towards the close, however, I became so utterly worn out with the unceasing strain, that I felt that I could not continue without a period of rest, and, as previously stated, resolved to return home. The whole journey was studded with stirring adventure, and I had several narrow escapes from losing my life, both by drowning and other causes.

It is a pleasure to me to be enabled to state that the bodies of every bird I shot and recovered are made into good skins or mounted specimens, and were needed for the series I was preparing. Not a single bird was needlessly shot; and never for only cooking purposes. I regret that many bodies were lost, but through no fault of mine. This was when birds fell through cracks in the lava, or, in the case of the Harlequin Ducks, when they were carried away by the mad rush of water in the rapids.

The careful mounting of the 330 birds occupied me, after my return, together with other work intervening, over twelve months; another important and laborious task in connection with the Baylis collection occupied still another twelve months; hence the delay in publishing this report.

I feel that I ought not to bring this paper to a close without tendering my earnest thanks to those who assisted in my expedition; and, first of all, a tribute to the memory of F. W. W. Howell, who, alas! lost his life this year (1901) while crossing one of the treacherous Icelandic rivers. I met Mr. Howell quite accidentally about two months prior to my departure for Iceland. We were total strangers, but it was through his kindly and generously tendered advice that many obstacles which others had magnified into insurmountable ones were smoothed away,

and my course made so clear and plain that I had no hesitation whatever in starting on my journey. Mr. Howell was a strictly conscientious man ; he loved Iceland, and laboured hard to open it up to the outside world. His untimely loss will be deplored by none more sincerely than by the Icelanders themselves, who have lost a true well-wisher.

My friend Mr. Henry Cox kindly undertook at the last moment, and when pressure was heaviest upon me, the entire management of the all-important ammunition department ; while Mr. W. T. Wilson, of philatelist fame, gave much valuable information on baggage, pack-boxes (special), and provisions.

Dr. Bowdler Sharpe and others at the British Museum I thank for their kindly consideration in naming some of my specimens. To my chief guide and interpreter, Sigurdur Samarlidason, my unstinted praises are due. He worked assiduously, and, when he fully grasped the character of my undertaking, never wearied of making inquiries wherever we went for information which would be useful to me. To the Icelanders generally, in those districts I visited, my warmest thanks are given for their courtesy and kindness ; they all worked heartily to further my interests, their one desire appearing to be to send me back with as perfect a collection as possible.

The journey has left brilliant memories for me, and I trust that I shall be enabled to redeem my promise, and pay another visit to this paradise of the North.

## NOTE ON THE ORIGIN OF SEXUAL DIMORPHISM, AND OF NUPTIAL WEAPONS AND ORNAMENT- ATION.

By G. E. H. BARRETT-HAMILTON.

Not long ago\* I suggested, from a consideration of the spawning habits of the various species of *Oncorhynchus*, that secondary sexual characters, as well as the seasonal assumption of nuptial ornaments and weapons, might have had their origin in pathological conditions: that the whole metabolism of the animal is upset in the effort to produce the sexual products, with a result that pigment and matter are set loose in the body, and find their way to new regions, often with a fatal—always with a serious—influence on the animal, but resulting in the production of nuptial adornments and weapons. Mr. Cunningham, in parts of his argument,† comes very near this hypothesis—for instance, when he lays great stress on the influence of the veins as a controlling factor in the evolution of sexual characters. Nevertheless, he is most unfortunate to have missed the Reports of Investigations on the Life-History of Salmon, published by the Fishery Board of Scotland. In these papers both his and my views are supported, and it is clearly shown that in the breeding Salmon, whether male or female, such transference of pigment and matter, both of fats, proteids, phosphorus compounds, and iron, actually does take place.

There remains yet another point upon which I wish to touch. Many naturalists base their arguments on the absence of proof that acquired characters are or can be inherited. Here they have a strong position; but, considering the matter closely, do we find that secondary sexual characters are in all cases inherited? The form and detail of an animal's body exist as the expression of, or owe their structure to, two forces, the one purely vegetative, or due to purely nutritive causes, the other sexual.

\* Cf. 'Proc. Camb. Phil. Soc.' vol. x. pt. v. pp. 279-285.

† "Sexual Dimorphism in the Animal Kingdom."



Now, if we remove the generative organs—the origin of sexual activity—we leave an animal purely vegetative, and one in which none, or hardly any, of the secondary sexual characters will make their appearance. They are not then part of the essential vegetative basis of the animal, but a mere expression of its sex. Remove the sex, and we remove them also. Can it then be said that they are hereditary, even although the sexual activity from which they arise be so? I suggest that they are not, although their partial appearance in some cases, even after the destruction of the generative organs (if not due to an imperfect destruction), would seem to show that perhaps they may eventually, after many generations, become so.

What I conceive to happen is somewhat as follows:—In animals which exhibit neither sexual dimorphism nor seasonal armature or ornamentation, the influence of the generative organs is exerted equally upon the sexes, as well as, probably, throughout life. In animals exhibiting the phenomenon either of sexual dimorphism or seasonal armature or ornamentation, the generative organs, when the individual is young, have usually little or no influence on the body, which follows in its growth the simplest possible laws. As soon, however, as the generative organs commence to grow, their influence is usually very marked. Their increase—often sudden, and, one might almost say, violent—is effected at the expense of the other organs, which, as in the case of the muscles of the Salmon, are actually robbed of their material. The whole metabolism of the body is disturbed, and the nervous system is particularly affected. The pigment and material thus set loose is not necessarily transferred in its entirety to the genitalia, but may, as in the case of *Oncorhynchus*, find its way to the skin or elsewhere. I have suggested that in some such cases the condition of the animal is purely pathological. The heightened coloration is, as in the human jaundice, the mere outward manifestation of disease—a disease to which, in this case, the animal eventually succumbs. There must, however, be numerous cases where the animal, although sickening, survives. It is here that the power of Natural or Sexual Selection supervenes as a guiding influence on the manner and direction of the transference of pigment and matter. This matter, at first transferred haphazard, is guided into

channels which bring it to those parts of the body which are most in use in courtship, or chiefly subjected to nuptial energy. Hence may result many nuptial weapons or ornaments. Under such an argument we at once understand how it is that in some animals the sexual characters are permanent, in others transitory. Inasmuch as they follow the growth of the genital organs, where this growth is periodical so are they periodical, and, where the genital organs are influential throughout life, the characters are permanent, waxing and waning, however, like the Stag's horns, with their progress from youth through maturity to senescence. What is inherited, then, may well be not the secondary sexual characters themselves, but the influence of the genitalia, the tendency to the disruption of spare material and its deposition in particular regions, a process which certainly appears to become fixed after numerous generations.

Such is a view of sexual dimorphism and the seasonal assumption of nuptial weapons or ornaments, which I venture to put forward in all humility. Two advantages may be claimed for it—(1) it is based on a physiological standpoint, and starts on firmer and deeper ground than the older theories; (2) it includes in its scope not only persistent sexual dimorphism, but seasonal exhibitions of sexuality.

## NOTES AND QUERIES.

## MAMMALIA.

**De Winton's Wood-Mouse in Worcestershire.**—In the spring of this year I trapped a specimen of this Mouse in a conservatory in the parish of Norton, some three and a half miles outside Worcester, on the Pershore road. The specimen, a female with well-defined breast-band, gave in the flesh the following measurements in millimetres:—Head and body, 108; tail, 114; hind foot, 22; ear, 19. In Capt. Barrett-Hamilton's monograph of the Mice of the *Mus sylvaticus* type (Proc. Zool. Soc. 1900) this subspecies is recorded from the following counties in England:—Hereford, Sussex, Suffolk, Northampton, and Northumberland. Hence Worcester is a new county record.—R. I. Pocock (Brit. Museum, Nat. Hist.).

**Autumnal Litter of Dormice.**—On Sept. 29th I found a nest of *Muscardinus avellanarius* at Betton, near Shrewsbury, containing a doe and several young which were evidently newly born, as they were quite naked and blind. When the nest was visited seven days later it was found that the doe had disappeared, taking her young with her. On Aug. 28th last year I had brought me from the same place a nest with doe and young about half-grown, when the fur is brownish. As the Dormouse is said to litter in the spring, it seems that it frequently has two families in the year. I am informed that at the present time (early October) there are several other nests near here containing young.—H. E. FORREST (Shrewsbury).

**White Leveret at Rainworth, Notts.**—On Oct. 5th a man picked up a white Leveret (an albino), and brought it to me. We are trying to rear it by hand, and it looks bright and well so far, and will be a delightful pet, and a rare one if we succeed.—J. WHITAKER (Rainworth, Notts).

## AVES.

**Goldcrest Seven Hundred Miles from Land.**—On Oct. 10th, when in lat. 56° 15' N. and long. 31° 13' W., a Goldcrest (*Regulus cristatus*) came on board the Allan Liner 'Tunisian.' It was raining and blowing a moderate S.S.W. gale at the time, and it sought shelter behind one

of the ship's skylights. It appeared in no way exhausted—in fact, it was as lively as if it was on land. After remaining fifteen minutes on board it rose to about eighty feet above the water, and disappeared in an easterly direction. The Goldcrest is the smallest bird in Great Britain, and it seems strange that it should be capable of such powers of flight, as the nearest land—Belmullet, Co. Mayo—was about seven hundred and twenty nautical miles distant, and only fifty-six miles short of half the distance across the Atlantic to Belle Isle. In this case the wind was not favourable to westerly migration, and the bird must have been engaged some time on its return journey. Cattle-ships afford food and a resting place to many migrants, more particularly those from America, in their attempts to cross the ocean, and if a record was kept of them it should prove to be both valuable and interesting.—J. TRUMBULL (Malahide, Co. Dublin).

**Chiffchaff (*Phylloscopus rufus*) singing in Autumn.**—With reference to Mr. A. H. Meiklejohn's note on this subject (*ante*, p. 388), I may mention that on the morning of Sept. 25th one was singing loudly in the garden here. I heard it first about 8 a.m., and saw it several times at close quarters, until it ceased singing about one o'clock. I had not before heard the Chiffchaff in this locality. On Aug. 31st, 1899, I heard one singing in a lime-tree at Wellingborough, and on Sept. 7th, 1900, I heard one singing in the gardens close to Belvoir Castle.—G. TOWNSEND (Polefield, Prestwich, near Manchester).

It is by no means an unusual occurrence to hear the Chiffchaff singing in the autumn months. On one occasion I heard an individual merrily chirping away in a small coppice so late as Oct. 9th. This I believe to be a record (at least for this district); but I have many times heard the note of this cheerful little warbler during the month of September.—W. H. WARNER (Fyfield, near Abingdon, Berks).

The song of the Chiffchaff in autumn, to which a correspondent calls attention (p. 388), is nothing unusual. I have frequently heard this bird singing in September, but the song at that season seems to lack the spirit with which it is uttered in the spring. Far more remarkable than the mere occurrence of the bird singing in the autumn is the fact that its song may then be heard in the most unexpected places. For instance, this last September I heard the song and saw the bird on several different days among some trees in Summerfield Park, within a stone's throw of one of the noisiest and most crowded streets of Birmingham; and I also heard it among some small trees in the grounds of Birmingham Workhouse Infirmary, where most trees will refuse to grow, on account of the smoke from adjacent factories.



I heard the Willow-Warbler last April in the same spot—a mere oasis in the desert of smoke-blackened houses. The Willow-Warbler also is well known to sing in the autumn, but here too the same remark holds good as in the case of the Chiffchaff, for the song is soft and subdued, and lacks the energy of the bird's spring notes. I have often, when listening to the Chiffchaff's song in the autumn, noticed it to sing, as it were, with a stammer, uttering a succession of hesitating cheeping notes. Sometimes it has seemed to me as though it were trying to sing like a Willow-Warbler, but after repeated attempts always came back to its own "cheep-cheep." These syllables more nearly represent the autumn notes, to my mind, than the words "chiff-chaff."—ALLAN ELLISON (17, Selwyn Road, Birmingham).

**Richard's Pipit (*Anthus richardi*) in North Wales.**—In connection with my work on the fauna of North Wales, I have recently had lent to me a MS. note-book kept by Dr. J. W. Moses, a medical man, who resided at St. Asaph from 1839 onwards. Amongst numerous local notes on natural history the following occurs:—"1840, Dec. 9th. Shot a lark upon the sandhills. I was attracted to the spot where it was feeding by the shrill, and to me strange, note it uttered. It measured from the point of the bill to the tip of the tail  $7\frac{3}{4}$  inches, being nearly 2 inches longer than the Skylark. In plumage it resembled the Titlark. Whether this be a variety or no, I cannot say." This description appears to indicate that the doctor had got hold of Richard's Pipit, although the species has never been recorded in North Wales. It is unfortunate that the specimen is not, so far as I know, in existence; but the length of the bird, the shrill call-note, the Pipit-like colouring, and the very long hind claw can only apply to the species named. This note was submitted to Mr. Howard Saunders for his opinion, and he agrees with the diagnosis.—H. E. FORREST (Shrewsbury).

**Siskins in Orkney.**—On Sept. 21st several flocks of Siskins (*Chrysomitris spinus*) arrived on migration in the parish of St. Mary's, in the mainland of Orkney. The flocks numbered from fifteen to thirty individuals, and were feeding on the thistles along the cliff-edge. They were there, in decreasing numbers, for about three days, and then disappeared. The wind before their arrival and during their stay was southerly, and the weather foggy, particularly on the first morning they were observed. In 'A Fauna of the Orkney Islands' the Siskin is only admitted in brackets, the sole instance of its occurrence being a bird which was probably an "escape." Their arrival on migration therefore seems to be worth recording, though it may well be that as

more observations are made the bird will be found to occur there annually.—N. F. TICEHURST (Guy's Hospital, S.E.).

**Siskins in Sussex.**—This autumn seems to have been more marked by the appearance of small Finches, &c., than for many years past in this locality. On Sept. 14th I saw a Siskin (*Chrysomitris spinus*) on some brickfields near the West St. Leonards Railway Station. On the 16th I saw three large flocks of the same species, and from that time onward they seemed to increase in numbers, it being hardly possible to go out without seeing at least one large flock. It would be interesting to know if they have been observed in any number in other of our southern counties this year. The Redpoll (*Linota rufescens*) also arrived in some numbers, and unusually early. I saw the first on Sept. 19th, the usual time of their arrival here (St. Leonards) being the second week in October.—MICHAEL J. NICOLL (10, Charles Road, St. Leonards).

**Breeding Habits of the Swift.**—It may interest your correspondent, the Rev. Allan Ellison, to know that the number of eggs laid by the Swift was the subject of several letters in the 'Field' and 'Zoologist' as far back as 1867 (cf. Zool. 1867, pp. 915 and 990). Two correspondents, Messrs. Parnell and Marcus Richardson, related instances in which they had found three eggs. On the other hand, Mr. Sterland had never found more than two; and the editor quotes his 'Dictionary of British Birds' and 'Birdsnesting' to the effect that "the eggs of the Swift are two in number." The numerous instances in which three eggs have been found without any reasonable probability that they were the produce of two hens seem, however, to prove that the normal number of eggs varies from two to three, and I believe that occasionally four eggs are laid. If it were a common occurrence for two hens to lay together, surely clutches of four would be numerous instead of being exceedingly rare. — FRANCIS C. R. JOURDAIN (Clifton Vicarage, Ashburne, Derbyshire).

**Hobby Breeding in Shropshire.**—It is pleasant to record that the pair of Hobbies (*Falco subbuteo*) mentioned in this Journal twice before (Zool. 1900, pp. 143 and 382) returned again to breed in the same nest for the third time this year. Mr. J. Palmer, Mr. J. Steele Elliott, and I visited the nest on June 27th, when there were, as usual, three eggs in it. A young Hobby with traces of down on the neck was shot near Bridgnorth about Sept. 10th, probably one of the same brood.—H. E. FORREST (Shrewsbury).

**Red-footed Falcon in Essex.**—On Oct. 17th, Mr. Cole, of Norwich, received for preservation, for the Rev. J. R. Owen, an immature male

Red-footed Hobby (*Falco vespertinus*), which that gentleman informs me was shot in Essex, at Bradwell-on-the Sea, where, he adds, interesting birds are often seen, as the parish consists of a promontory which runs out into the sea. It has a white throat, and a tint of ruddy brown on the upper surface and on the breast; tail-feathers barred; legs, toes, and claws orange. *F. vespertinus* is a species not included in Miller Christy's 'Birds of Essex.'—J. H. GURNEY (Keswick Hall, Norwich).

Osprey at Rye Harbour.—On Sept. 13th, whilst at the mouth of Rye Harbour, Sussex, I noticed a large bird sailing over the sea from the south-east, which on its nearing the shore I easily identified as *Pandion haliaëtus*. The tide was high at the time, and, not in the least disconcerted by the presence of several people, the bird commenced fishing for Grey Mullet. It hovered in the air like a Kestrel, and then with nearly closed wings hurled itself into the sea, almost disappearing below the surface. Its last plunge was within about one hundred and fifty yards of where I sat, and, as far as I could judge with glasses, it made use of its bill as well as claws to secure the fish, and rose with a large Mullet, which it carried parallel with its body (*i. e.* the fish's head pointing towards its head). It flew straight out over the sea in a due southerly direction.—MICHAEL J. NICOLL (10, Charles Road, St. Leonards).

Osprey in Hampshire.—During the latter half of September I had heard of one or more large Hawks having been occasionally seen flying high over the river, and from description I supposed it was an Osprey (*Pandion haliaëtus*), as in previous autumns I had seen the species more than once in a similar situation. My supposition was confirmed, for on Oct. 4th an Osprey was sent me for identification from the neighbourhood of Fordingbridge. It was in very fair plumage, but in emaciated condition, as if starved, and had nothing whatever in its stomach, although it turned the scale at 3 lb. 12 oz., and was 4 ft. 8 in. from tip to tip of expanded wings. Sex female, but very immature. The plumage was swarming with a small brown parasite—*Acarus*, I believe—which must have been highly annoying to the poor bird; but is it not the case that these tiny pests increase more rapidly upon a weakly victim than they do with a strong and healthy subject? In 'The Birds of Wiltshire' the Rev. A. C. Smith records the occurrence of two Ospreys in Wilton Park on Oct. 14th, 1882; so that its occurrence so far up the Avon as Fordingbridge needs no comment, since the bird is not very rare in Christchurch Bay, which in a direct line is no great distance for such powerful wings to traverse; and it has more

than once been recorded as visiting Fleet Pond, in quite another part of the county. What a study is the short plated leg, file-like toes, and long and powerful claws, &c., belonging to this bird—all so nicely adapted to secure and retain its slippery and finny prey; whilst the very short thigh-feathers, so unusual in the Falcons, at once attract attention.—G. B. CORBIN (Ringwood, Hants).

**Little Bustard in Sussex.**—On Dec. 23rd, 1900, a Little Bustard (*Otis tetrao*) was shot at Kitchenham Farm, Ashburnham, near Hastings, Sussex, by the Hon. John Ashburnham. Mr. Borrer, in his 'Birds of Sussex,' describes it as a very rare straggler. He only mentions four instances of its occurrence, the two last in 1879.—GEORGE W. BRADSHAW (54, London Road, Reading).

**Red-necked Phalarope (*Phalaropus hyperboreus*) in North Wales.** On Sept. 27th I was shown, at a local taxidermist's, a Red-necked Phalarope, which had been found a day or two before at Towyn. Mr. Howard Saunders happened to be in Shrewsbury that day, and kindly examined the specimen. The toes being only slightly lobed, he judged it to be rather a young bird. It was in autumnal plumage, with no trace of red. With the exception of a specimen shot in Anglesey (Zool. 1893, p. 428) this seems to be the only example ever recorded on the west side of North Wales.—H. E. FORREST (Shrewsbury).

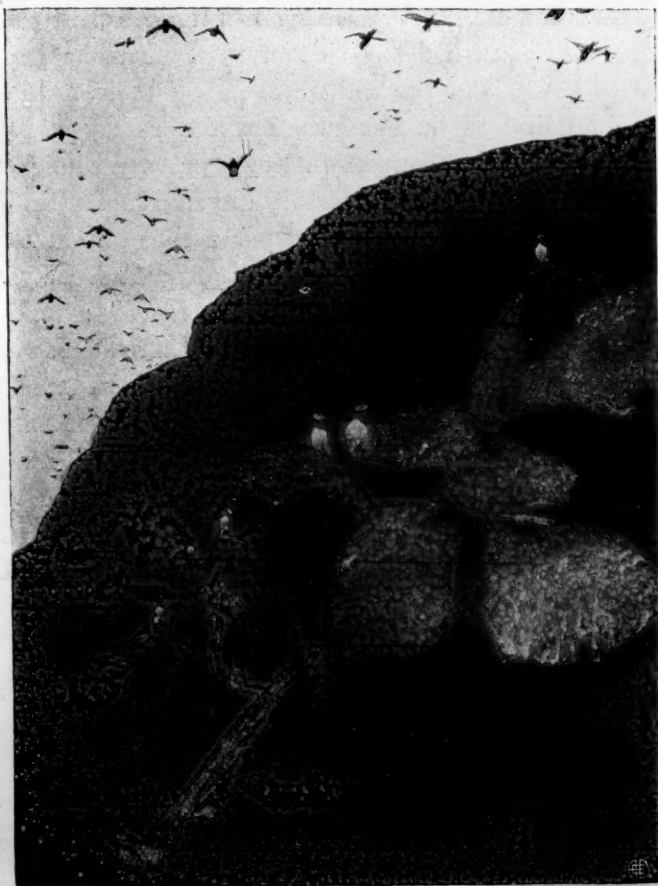
**Great Snipe and Variety of Swallow in Hampshire.**—On Oct. 12th a specimen of the Great or Solitary Snipe (*Gallinago major*) was shot in this neighbourhood, but, having been killed with "duck-shot," it was very much mutilated, part of the tail having been carried away, and the dark barred under parts of the body were very torn. It weighed exactly 8 oz., and under the broken skin appeared to be a mass of oily fat. The whole plumage was much darker than the Common Snipe, the length of beaks being about equal; but in the larger species the legs were of a greener hue, and much more robust, and from the toes to the first joint measured three-eighths of an inch more than in the commoner bird. The outer tail-feathers were not wholly white, but had indications of dark bars across their entire width, an indication, as described, of immaturity.

Several times in the summer I was told that a so-called "white Swallow" (*Hirundo rustica*) had been seen about the river here, and I trust its life was spared; but at the end of August the remains of a peculiar variety of this summer-loving bird was sent to me from the neighbourhood of Lymington. It appeared to be a uniform pink chocolate brown upon the back and greater wing-coverts, the head and breast being a lighter grey; the larger quills both of wings and



tail having much paler edges, the "spots" in the tail almost white, throat and forehead of the usual chestnut-brown, but pale, and apparently blending into the colours near it. From measurement of wing, &c., it seemed to have been mature, but altogether it was so shattered that nothing very reliable could be ascertained. I may here remark that Swallows were comparatively scarce last summer, and the Martin and Sand-Martin were not seen in their usual numbers; but the Swift was more abundant than I have seen it for many years, and stragglers were here several days before their usual time, about May 1st.—G. B. CORBIN (Ringwood, Hants).

**A Breeding Station of the Puffin (*Fratercula arctica*).—**It would be well worth while for any person sailing up the Little Minch to spend a



PUFFINS ON THE SHIANT ISLANDS.

few hours on the Shiant Islands, if tide and wind permit. The Shiant Islands, as most people know, are a small group of islands lying

until they had acquired their present completely arboreal kind of life, and, since there is a considerable probability that both types of these animals were independently derived from some of the smaller Ground-Sloths, it follows that on two separate occasions an alga has independently taken advantage of this suitable vacant situation, and adapted itself to its new surroundings. This difficulty, like the one connected with Sloths, having flourished before they acquired a lichen-growth, may appear of little importance to those who are convinced of the all-sufficiency of natural selection, but to others it may (if well-founded) seem more serious."

In the Proceedings of the Asiatic Society of Bengal (August, 1901), Miss Nelly Evans has contributed "Some Observations on the Life-History of *Culex fatigans*, the Common Grey Mosquito of Lower Bengal." The paper gives detailed evidence with regard to the female of this species of Mosquito—(1) that it may live, in its adult or imago stage, for nearly five weeks; (2) that during its adult life it may feed as many as five times; and (3) that it does not feed indiscriminately, but has a preference for the blood of the House-Sparrow, retaining that of Java-Sparrows, Larks, Rails, and White Rats. All these facts, but the last one in particular, are considered to favour the possibility of the insect being a carrier of a definite blood-infection, and to support the conclusions of Ross based upon experiments with this species of Mosquito.

We learn from Melbourne that it has been decided to form an "Australasian Ornithologists' Union." The objects of the Society are the advancement and popularization of the science of ornithology, the protection of useful and ornamental avifauna, and the editing and publication of a magazine or periodical to be called *The Fawn*, or such magazine or periodical as the Society may from time to time determine upon. The President-Elect is Col. W. V. Legge, R.A., F.Z.S., &c., and the Hon. Secretary, D. de Souza, C.M.Z.S., M.B.O.U., &c. We have now received Part I. of *The Fawn*, a publication which will prove a very important factor in a knowledge of Australasian ornithology. It is well illustrated, and among its contributors are many well-known names.

In Mr. John Morley's panegyric on Gladstone, at the recent unveiling of that deceased statesman's statue at Manchester, is an interesting statement of the mental platitudes of Gladstone and Darwin.

## EDITORIAL GLEANINGS.

In the 'Quarterly Journal of Microscopical Science', Dr. W. G. Ridewood has published a most valuable paper "On the Structure of the Hairs of *Mytilus* (Linn.) and other South American *Ebdenata*." We are glad to see that Dr. Ridewood is dissatisfied with the present position of the order *Ebdenata*, which, as he remarks, will probably prove to be an unnatural assemblage of animals, and that, acting on further knowledge, it will probably prove necessary to remove the Old World forms *Mollus* and *Oxytropis* to constitute two new orders by themselves. The diagnoses of hair-structure given in this communication are of too technical a nature for reproduction in our pages; but the publication has prompted a paper by Mr. R. Lydekker in 'Knowledge', on "Plant-bearing Hair," of which we cannot do better than give the following abstract:—

The author remarks that, "apart from its extremely coarse and brittle nature, the most striking peculiarity of the outer hair of the *Sloths* is its more or less decidedly green tinge. . . . Now green is a very rare colour among mammals, and there ought therefore to be some special reason for its development in the *Sloths*. And, as a matter of fact, the means by which this coloration is produced is one of the most marvellous phenomena in the whole animal kingdom—so marvellous, indeed, that it is at first almost impossible to believe that it is true. The object of this peculiar type of coloration is, of course, to assimilate the animal to its leafy surroundings, and thus to render it as inconspicuous as possible; and, when hanging in its usual position from the under side of a bough, its long, coarse, and green-tinged hair is stated to render the *Sloth* almost indistinguishable from the bunches of grey-green lichens among which it dwells. In the outer sheath of the hairs of the *Sloth* there are a number of transverse cracks, and in these cracks grows a primitive type of plant, namely, a one-celled alga. In the moist tropical forests forming the home of the *Sloth* the algae in the cracks of their hair grow readily, and thus communicate to the entire coat that general green tint which, as already said, is reported to render them almost indistinguishable from the clusters of lichen among which they hang suspended."

Mr. Lydekker adds some weighty remarks in his paper. "It is quite clear that an alga would have been of no advantage to the *Sloth*

Fauna, Flora, and Geology of the Clyde Area. Edited by G. F. SCOTT ELLIOT, MALCOLM LAURIE, and J. BARCLAY MURDOCH. Glasgow: Published by Local Comm. Brit. Association.

THE inception of this volume is due to the recent meeting of the British Association at Glasgow. Twenty-five years ago, when the Association met on the banks of the Clyde, a Natural History Handbook was issued to the members, but the present volume is a notable advance on that publication. The lists have now been compiled by a large body of workers, amongst whom are many well-known names, and will be invaluable to zoologists and geologists, who so frequently visit this beautiful area. The volume also ought to, and probably will, prove an incentive to local collectors, and we may expect to find records of species "not included in the Brit. Assoc. List." This will probably prove a laborious quest, for many of the lists are compiled by men difficult to beat in this undertaking; but the last word is never said in a local list of species distributed over such a country as the Clyde Area. A splendid Bathymorphological Map accompanies the volume.

How to know the Indian Ducks. By F. FINN, B.A., &c. Calcutta: Thacker, Spink & Co.

THE Indian Ducks treated in this small but handy publication "include all Teal, Geese, Swans, and Mergansers." In reading the title therefore we must make a somewhat free use of the imagination. Besides a description of each species, and an account of its distribution, there are many observations of an interesting character. Indian vernacular names are given, and in an appendix we find many hints as to the successful treatment of these birds in confinement. Although this advice is given for the domestication of these "Ducks" in India, the small publication is well worth the perusal of all aviculturists in this country.



Catalogue of the Arctidae (Arctiidae) and Agavistidae in the  
Collection of the British Museum. By Sir GEORGE F.  
HAMMOND, Bart. Published by the Trustees of the British  
Museum.

THIS forms volume iii. of the great monographic Catalogue of the Lepidoptera Phalaenae, and is something more than its title implies, being not confined altogether to the species contained in the National Collection, but embracing all others known and recorded. The present volume is a bulky one, containing 690 pages, and the descriptions of 1171 species, with synoptical keys to, as well as descriptions of, genera and species. It completes the Arctidae, and also fully deals with the small family Agavistidae of day-flying habits. To produce such volumes annually is no small task, and the author may be congratulated on maintaining his standard of thoroughness throughout.

There can be little doubt that a standard of nomenclature must for long pertain to these volumes. The examination and comparison of genera and species has been so extensive as to command respect, even from those whose descriptions have been treated as of a synonymical character only, the author having shown a healthy spirit of conservatism in classificatory details, and having written with the courage of his convictions.

A fresh departure seems to have been taken in the spelling of some generic and specific names, to which publicity should be given, as the course will probably occasion considerable comment. We find "valkeri" substituted for "walkeri," "vestwoodi" for "westwoodi," and other similar changes. This is a scholastic question which will probably result in divergent opinion, and need not be discussed here.

We certainly feel a spirit of gratitude as we peruse these pages of condensation and analysis; they make the study of a difficult subject a matter of surmountability, and render the classification and recognition of a large concourse of living creatures an easy undertaking for any serious student. Besides the numerous illustrations incorporated in the text, nineteen beautifully coloured plates are given in a separate form.

sometimes turn from Philip the theorist to Philip the mathematician. Figures will doubtless show the bankruptcy of much apparently joint-stock theory, and we may indeed rejoice in the prospect of such a result.

General Report on the Investigations in Porto Rico of the U.S. Fish Comm. Steamer 'Fish Hawk' in 1893. By BARTON WARREN EVERMANN. Washington: Govt. Printing Office.

THE acquisition of Porto Rico by the United States has been already followed by scientific results of the greatest interest to zoologists, and we may confidently expect the same biological enterprise to be devoted to the study of the Cuban fauna. The present volume is devoted to the fishes of Porto Rico, of which 291 species are now enumerated. Of these no fewer than 203 were obtained by the 'Fish Hawk' expedition, and thirty-three of them proved to be new species. All the genera and species are fully described, and very many figured; while forty-nine coloured plates are added, which alone are a revelation to those who have never seen the gorgeous hues of, say, the fishes of a coral-reef. These figures may be accepted as true in colouration, for most of them "were painted on board the 'Fish Hawk', the fish being placed in an aquarium as soon as caught, and the life colors gotten before they had undergone any appreciable change." This, of course, is not possible in all cases, and an almost insurmountable difficulty is experienced, as when, in the case of the Deep-water Gurnard (*Paristodon gracile*) we are told:—"So rapidly do such fishes as this change color when brought up from considerable depths, that we can never be sure that the colors they exhibit when we first behold them are really those which they possess in the depths which they inhabit; in fact, we may be quite sure that the colors are not the same, but whether the colors are more or less intense is difficult to determine." The curious trivial names applied to animals are often inexplicable. A fish found from Florida Keys to Brazil is known by the appellation of "Margate-fish." According to Mr. Evermann, some of the fishermen of the Bahamas came originally from Margate, and thus gave the name of their English port to a fish which they found in the Bahamas.

or that it furnishes a body of evidence against his (Weismann's) cardinal rule that acquired characters are never inherited."

*Biometrika*: a Journal for the Statistical Study of Biological Problems. Part I. Cambridge: at the University Press.

This is a proposed quarterly publication, and is edited, in consultation with Francis Galton, by W. F. R. Weldon, Karl Pearson, and C. R. Davenport. It is an expression of the advanced study of evolution, and a recognition of the mathematical argument that may be employed in its exposition. "It is intended that '*Biometrika*,' shall serve as a means not only of collecting under one title biological data of a kind not systematically collected or published in any other periodical, but also of spreading a knowledge of such statistical theory as may be requisite for their scientific treatment." On these grounds alone this new publication will be welcomed; but it possesses a still higher credential, as expressed in its editorial preface, which we must quote in full:—"Evolution must depend upon substantial changes in considerable numbers, and its theory therefore belongs to that class of phenomena which statisticians have grown accustomed to refer to as mass-phenomena. A single individual may have a variation which fits it to survive, but unless that variation appears in many individuals, or unless that individual increases and multiplies without loss of the useful variation up to comparatively great numbers—shortly, until the fit type of life becomes a mass-phenomenon—it cannot be an effective factor in evolution." Hence the cogency and value of the study by mathematics of large numbers. The value of this method applied to the many guesses, theories, and suggestions which the term evolution has inspired, but for which real evolutionary study is not answerable, cannot be ignored. It can be expressed in the words of Darwin: "I have no faith in anything short of actual measurement and the Rule of Three."

To many like ourselves, to whom abstruse figures are repellent, and all machinery abhorrent—and there is a fear that we are a large number—we shall scarcely follow the process, though we cannot neglect the conclusions. It will be well for all to

the knowledge to master the conception is not very large. These, however, are its high priests, and it would be well if the doctrine always came from them direct. Evolution is a revelation, but it is only made to those who diligently seek it, and the study of this Treatise on Zoology will greatly help those who care to make the quest.

Use-Inheritance, illustrated by the direction of Hair on the Bodies of Animals. By WALTER KIDD, M.D., F.R.S. Adam & Charles Black.

The aim of this brochure is clearly stated in the Preface—"The facts dealt with in the following pages are intended to show that the doctrine of the non-inheritance of acquired characters does not always hold good." To prove this negative is somewhat difficult; to even suggest it is to-day unpopular to those who believe *en masse*, and receive *ex cathedra*. As the author states—"All the various forms of mutilation of animals and man practised from time immemorial have failed hitherto to furnish cases of such mutilations being transmitted by descent." Mr. Kidd does not, however, suggest that such constant mutilations may have caused congenital variation which has become hereditary.\*

The author proposes a dynamical explanation for the presence of whorls, featherings, and crests in the hairy coats of mammals, and argues that, as a rule, they are due to the traction of the underlying muscles of the part in question, occurring in regions where opposing traction of underlying muscles is found; never occurring over the middle of a large muscle, and most uniform and strongly marked in animals with very strong muscles.

In considering the hair-slope in man, Mr. Kidd makes a distinct challenge to the followers of Weismann, which we only propose to record. It appears that, although the arrangement of hair in man corresponds to a considerable extent with that of the Anthropoid Apes, there are certain peculiarities, or an "exceptional type," in its distribution which raise the issue whether "the hair-slope in man is a strong argument against the theory of the Simian descent of Man (as far as present evidence goes).

\* This circumcision may have had a reflex action on facial characters.



## NOTICES OF NEW BOOKS.

A Treatise on Zoology. Edited by E. RAY LANKESTER, M.A.,  
 LL.D., F.R.S., &c. Part IV. The Platyhelminis, Mesozoa,  
 and Nemertini, by W. BLAXLAND BENHAM, D.Sc., M.A.  
 Adam & Charles Black.

ALL serious students of zoology—to whom this publication is addressed—will welcome the appearance of another volume of this excellent treatise. The present contribution is written by Dr. Benham, and was mostly completed before the author left England to take up his appointment in the University of Otago, New Zealand. The Platyhelminis represent a natural phylum often submerged by writers under the old and more inexact term "Vermes," and comprise Flatworms (Planarians), with their offshoots, the Flukes and the Tapeworms. A method pursued, as in the previous parts—already noticed in these pages—and again one of the original features, is an historical survey of each class, showing the slow and gradual accumulation of the facts and theories dealt with, and the chief zoologists who have contributed to our knowledge of the group. One of the most interesting questions raised in the volume relates to the Tapeworm, and as to how the life-cycle of these animals, now perfectly understood, conforms to, or illustrates Steenstrup's Theory of the Alteration of Generations. This is very fully discussed, and demands the careful study of those interested in the question.

It is still apparently too often forgotten that it is in such books as the one under notice, and in studies such as it enforces, that the true facts of evolution are to be found, and not by surface impressions or ingenious suggestions. Nothing seems so much in vogue as an acquiescence in the dogmas of a popular evolution designed for the instruction of the man in the street, or for those who like to acquire new ideas on trust. It is, however, probably as true as the facts of evolution itself, that in every civilized country the number of those who have acquired

to the 'Entomologist' (1874, p. 137), and our ever kind old friend, the late Edward Newman, had no hesitation in naming the parasite *Oritomyia arctica*, as Mr. Austen has done, and who has kindly added the interesting note on the metamorphosis of the fly. My limited experience, however, does not exactly coincide with the remark that this species "appears to occur indiscriminately in the plumage of most wild birds." I have seen it in the plumage of several of the birds in the list following the above quotation, as Blackbird, Song-Thrush, Green Woodpecker—and I may name the Jay—but in very isolated cases; whilst, on the other hand, the Long-eared Owl is seldom obtained without some specimens of the fly being present. I have never seen it upon any other Owls, and had ignorantly supposed it was almost confined to *Asio otus*. Its short flights and peculiar manner of progression, especially amongst the soft loose plumage of the bird in question, is sure to strike the observer when once seen, and it is very interesting to know something of its highly remarkable life-history. I should also like to know if other observers have noticed its partiality for the Owl, or is it a local peculiarity? I can safely say I have seen scores upon the plumage of this particular bird, but I have detected but few upon any other species; and I formerly secured this and other bird-parasites for the microscopical work of my friend the late Rev. H. G. W. Aubrey.—G. B. CORBIN (Ringwood, Hants).

between Lough Fwe on the mainland, and Lough Seafort in the Outer Hebrides. The larger of the two islands is divided nearly equally into two heights, connected in the centre by a bank of coarse gravel and large rounded boulders. On a recent visit we climbed the northern mound, which is fairly steep, reaching a height of 528 ft., the only side that one can ascend, being covered with short slippery grass, which renders it somewhat dangerous. We saw thousands of Puffins flying backwards and forwards from the face of the cliffs and rocks below, where they would settle for a few minutes, then fly away again for another cruise round and round the cliff. It did not appear to be right that made them fly, but a love of exercise, as I approached within a few yards of various groups of them with my camera, when they did not seem alarmed, but sat looking at me with a ludicrous stolid gaze, their large beaks appearing to interfere with their sight, as they nearly always turned one side of their heads to look at me. When close to the top of the hill we came on their nesting-places, which were just like rabbit-burrows, but not so deep; there were Puffins in some of them, but we saw no eggs or very young birds, the month of July being rather late, as they are said to lay their eggs in May. They bite fiercely, and I remember seeing one of our sailors getting his finger badly cut by one that he caught hold of. There seemed to be a scarcity of other birds in these islands; we saw a few Guillemots and Gulls swimming about, but the Puffins were everywhere in the majority. The inhabitants were pleasant clean-looking people, who could not speak a word of English, and consisted of an old man, some women, and children, the younger men being all away at the fishery. We obtained some Puffins, and Guillemots' eggs for a few pence each from these people. The Guillemots appear to breed in the more inaccessible parts of the island. — W. H. WORKMAN (Lismore, Windsor, Belfast).

## REPTILIA.

Sand-Lizard in Berkshire.—In answer to your correspondent (ante, p. 383), a Sand-Lizard (*Lacerta agilis*) I gave to the London Zoological Gardens (vide List Vert. Animals, 3rd edic. 1886, p. 594) on June 25th, 1886, was caught in the neighbourhood of Wellington College, Berkshire. — S. S. FLOWER (Director, Government Zoological Gardens, Ghizeh, Egypt).

## INSECTA.

A Dipterous Parasite in the Plumage of Birds.—I was much interested in the notes referring to this subject (ante, p. 357). In my younger entomological days I sent a note of a somewhat similar kind

Mr. Morley, after describing the many mental gifts and activities of his master, went on to remark :—" No doubt something was left out in the wide circle of his interests. Natural science, in all its speculations and extensions and increase of scientific truth, extension of scientific methods—all that, no doubt, constitute the central activities, the intellectual activities, of England and Europe during the last forty years of his life—to all that he was not entirely opened. I remember once going with him one Sunday afternoon to pay a visit to Mr. Darwin. It was in the seventies. As I came away, I felt that no impression had reached him; that that intellectual, modest, single-minded, low-browed lover of truth—that searcher of the secrets of nature—had made no impression on Mr. Gladstone's mind, that he had seen one who, from his Kentish hill-top, was shaking the world."

MR. W. EAGLE CLARK, writing in the *Auk* (October last) states that the occurrence of a third example of the so-called Mealy Redpoll in the Island of Barra, one of the Outer Hebrides, incited him to procure the specimens, with a view to ascertaining to what species or subspecies of *Acanthis* the birds obtained in this far western island belonged. He found that all three examples were referable to the form described by Dr. Stejneger as *Acanthis linaria rostrata* (Coues)—a bird not hitherto recorded for Great Britain, though several specimens have been obtained on islands off the west coast of Ireland.

In the *American Naturalist* for October last, Prof. W. M. Wheeler has concluded his series of papers on "The Compound and Mixed Nests of American Ants." The author has arrived at the same conclusion as Wasmann, that there are no evidences of ratiocination in Ants. Prof. Wheeler, however, remarks that this conclusion, "even if it be extended so as to exclude all animals except Man from a participation in this faculty, does not imply the admission of a qualitative difference between the human and animal psyche, as understood by Wasmann. Surely the sciences of comparative physiology, anatomy, and embryology, not to mention palæontology, distribution, and taxonomy, must have been cultivated to little purpose during the nineteenth century if we are to rest satisfied with the scholastic definition of ratiocination as an adequate and final verity. And surely no one who is conversant with modern biological science will accept the view that the power of abstract, ratiocinative thought, which is absent in infants and young children, scarcely developed in savages, and highly developed and generally manifested only in the minority of civilized man, has miraculously sprung into existence in full panoply like the daughter of Jove."







BLAAUWBOK BULL (*HIPPOTRAGUS LEUCOPHÆUS*) IN THE LEYDEN MUSEUM.